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This study was designed to determine some of the educational characteristics associated with the construction of the independent student. Toward this end, 35 grade eleven teachers in an innovative school system were requested to supply the names of five independent, self-directed students and five not-independent, not-self-directed students. A total of 118 names were submitted: 60 independent students and 58 not-independent students. The two groups were found to be significantly different on nine educationally related variables. The independent students, when compared to the not-independent students, had significantly higher mean I.Q., higher mean GPA, lower mean class rank, lower mean modules of unscheduled time, higher mean class load, higher proportion of college bound students, lower proportion of students known as disciplinary problems, lower mean number of absences, and higher proportion of females than males. These results seem to indicate either that the role of the high-achiever, or that the variables analyzed are different from, but highly interrelated with, the criteria for membership into the independent student group. The research reported herein was funded under Title III of the Elementary and Secondary Education Act. (Author/EK)

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RESEARCH PAPER

General Educational Characteristics of Independent Students

INquiry
INto
INnovations

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GENERAL EDUCATIONAL CHARACTERISTICS OF INDEPENDENT STUDENTS*

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The priorities in elementary and secondary education are shifting from a focus on the structure of knowledge to a focus on the development of the individual learner. A new emphasis has emerged in curriculum which focuses on concepts of processes such as perceiving, communicating, decision making, and creating (Berman, 1968). This changing emphasis has already been integrated into the stated philosophies of many progressive schools. The written philosophy of one such school is: "The schools of University City exist primarily to serve the youth of this community, and the society in which they live through aiding them to become responsible, perceiving, self-directing individuals who are capable of making decisions and value judgments" (Boyer et al., 1966). The emphasis here is on the development of responsible, perceiving, self-directing individuals capable of making decisions and value judgments. Emphasis in learning in these "new" schools is placed on the development of affective characteristics associated with process skills such as civic competence, socially responsible behavior, and loyalty; rather than just cognitive gains. The

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learning of cognitive skills is still deemed important. However, instructional personnel are also concerned about ways of knowing and thinking. This emphasis is consistent with a learner-centered conception of the school's function (Goodlad, 1963).

The many changes in the new school as an educational system have been designed to enhance the total development of individuals who will be functioning within society. Thus, greater emphasis has been placed upon the development of affective characteristics. With this change has emerged a new construct; independent, self-directing students (termed here, independent students).

For quite some time, social psychology has been concerned with the importance of an individual's membership groups on his attitudes and values (Sherif and Sherif, 1953). The development of students who qualify for membership into the independent student group seems to be one of the priorities of teachers in the "new" schools. The philosophical basis for these new schools is different from that of the conventional schools. The emphasis in this "new" school is on the maximum development of the total individual, rather than on only the learning of a specific body of knowledge. It has become important in the "new" school to develop within the capacity of each individual such processes as perceiving, communicating, and decision making. Since the term independent student is used to describe this "new" teacher priority group, this concept of the independent student is central to the development of the total individual. Furthermore, since the central concern is on the importance of the individual learner, it would seem that membership to the priority group (i.e., independent

student group) should be unrelated or only slightly related to the general ability and achievement levels of the individual.

Teachers have always formed priority groups of students. Under the "knowledge-centered" organization these students were often called "high-learners" or "high-achievers." The role of these learners tended to be exclusively that of the highly intelligent, educationally motivated, conscientious student (which was generally a female student). However, in the "new" school with its shift away from the acquisition of a set body of knowledge and towards a focus on the needs of the individual learner these "self-generating" students are called independent students. It would seem that with this shift in educational philosophy there would also be a change in the role definition of the priority groups of students. The criteria for membership into the independent student group would thus logically shift away from the conventional educational concepts of intelligence, grade achievement, and the like.

The question, "What are the characteristics of the independent student?" has not been clearly analyzed. Through communication between the authors and school researchers in Demonstration Schools (Title III and Kettering I/D/E/A schools) it has become evident that the construct of the independent student is of concern to many school personnel. The description of this construct is of primary importance if school personnel accept the challenge of aiding students in becoming independent, responsible individuals capable of making decisions. This construct in effect becomes a primary objective of the educational process. Cronbach and Meehl (1955) pointed out the importance of developing constructs and emphasized that the development can be from a

practical orientation with little or no theory involved. This study was done from a practical orientation under genuine school conditions.

As with any other term, the definition of independence has several meanings. In this study, the term independent student is used rather than the term independence in order to avoid confusion between the independent-not-independent construct and the independence-dependence construct. The psychological definition of dependency can be stated as "...the subject's dependency upon people and his probable use of persons as symbols of constructs" (Helley, 1955). The converse would be the subject's lack of dependence upon people. The psychological definition of dependence-independence is thus quite different from one that would reflect the characteristics of a responsible, perceiving, self-directed individual.

PURPOSE

The purpose of this investigation was to determine general educational characteristics of independent students and to determine those educational characteristics which differentiate between independent students and not-independent students.

METHOD

The general method of the investigation was to identify those high school students who could be considered independent students and those who could be considered not-independent students, and then to analyze selected variables for their relation to the independent-not-independent classifications. The sample of students was taken from a grade eleven class in an innovative inner suburban high school.

The interest in this study was the delineation of the construct independent student as teachers in a "new" school perceive it. It is difficult, though, for teachers to clearly and succinctly describe what they mean by this concept in terms of the significant variables which make it up. This is not surprising because, "perception proceeds by interrelationships within definite wholes, one part affecting the other parts. Nothing occurs by itself; and a 'whole-character' is formed by the ensemble that cannot be experienced in the parts when they are perceived separately" (Allport, 1955). Therefore instead of requesting teachers to describe the role of independent students they were requested to identify the students who fit the roles of the independent student and the not-independent student.

The school used in this investigation has been identified as one of the "new" schools. The orientation of the school can be identified both from its stated philosophy (Boyer et al., 1963) and from the changes which have occurred in the educational system. The following are representative of these changes: mandatory study halls for every person have been abandoned; students are given the opportunity to select between courses and unscheduled time; students are encouraged to engage in individual study projects as part of their academic course load; flexible scheduling has been adopted; cooperative teaching has been undertaken in some programs; and school time has been provided teachers for individual and group planning.

The subjects used in this investigation were identified by teachers in this school. Each of the 35 teachers who had classroom contact with grade eleven students were requested to submit the names of the five students who they felt best characterized independent, self-directed students and the names of five students who they felt least characterized independent, self-directed

students (or best characterized not-independent students). The teachers submitted the names of 60 independent and 58 not-independent students.

It is interesting that of the 118 names submitted (from a total of 525 students in the eleventh grade class), there were no students whose names appeared in both groups. Furthermore, about one-fourth of the students received two or more nominations. This consistency in the selection of independent and not-independent students indicates the likelihood of homogeneity among teachers in their perceptions of the construct.

The teachers were not provided guidelines for their selection of students. They were to select students who fit with their perceptions of independent and not-independent. The lack of structure was necessary in order to analyze this construct from the practical orientation of the classroom teacher. The degree of consistency in the selection of students previously noted, takes on even greater significancy in light of the lack of guidelines for making nominations.

Variables representing six general educational characteristics were chosen for study: (1) achievement level, (2) ability level, (3) selection of activities, (4) program orientation, (5) school problems, and (6) sex of the student. These six areas were operationally defined as follows.

(1) Achievement level -- student's accumulative average and his rank in class.

(2) Ability level -- student's Henman-Nelson Intelligence Quotient as obtained in grade nine (or a reasonable substitute).

(3) Selection of activities -- number of modules (15 minute periods) of unscheduled time per week selected by a student during the spring semester of the 1967-1968 school year.

(4) Program orientation -- whether a student is identified by his counselor as appearing to be college bound or not being college bound.

(5) School problems -- whether or not a student is known as a disciplinary problem to the disciplinary officer for the school and the number of absences during the fall semester of the 1967-1968 school year.

(6) Sex of the student -- whether the student is a male or a female.

These variables were analyzed using the appropriate mean comparisons and frequency comparisons. The .05 level of confidence was used for all statistical analyses.

RESULTS

Those students classified as independent were significantly higher achievers than were the not-independent students. This can be noted in Table 1 and Table 2. Table 1 contains the summary information for the

TABLE 1

Significance of the Difference between Accumulative Averages for Independent and Not-Independent Students

Group	Number	Mean*	SE	t	df	Significance
Independent	60	2.7948	.0950	+13.7148	116	P<.001
Not-Independent	58	1.4914				

*Based on three-point system ranging from 0.00 to 3.00.

TABLE 2

Significance of the Difference between Mean Ranks in Class for Independent and Not-Independent Students

Group	Number	Mean*	SE	t	df	Significance
Independent	60	119.5166	22.4851	-15.0705	116	P< .001
Not-Independent	58	458.3793				

*Based on a class of 525 students.

students' accumulative averages and Table 2 the summary information for the students' ranks in class. The mean and standard deviation of the accumulative average for the independent students were 2.7948 and .4986, respectively, and for the not-independent students, they were 1.4914 and .5242, respectively. The accumulative average is based on a 3-point system ranging from 0 for non-passing achievement to 3 for superior or honors achievement. The two groups tend to be about equally variable. However, the independent students tend to be evaluated by their teachers as superior students while the not-independent students tend to be evaluated by their teachers as having met the minimum passing requirements. This same basic information can be obtained from the class ranks. The mean and standard deviation of the class ranks for the independent students were 119.5166 and 111.2788, respectively, and for the not-independent students they were 458.3793 and 129.8270, respectively. The class ranks are based on a total class enrollment of 525 students. As previously noted, the two groups tend to be about equally variable. However, the independent students tend to be assigned grades which place them in the upper one-fourth of the class while the not-independent students tend to be assigned grades which place them in the lower one-fourth of the class.

As could be surmised from the achievement data, independent students obtained significantly higher ability scores than did not-independent students (see Table 3). The ability scores were obtained for most of the stu-

TABLE 3

Significance of the Difference between Mean Intelligence Quotients for Independent and Not-Independent Students

Group	Number*	Mean	SE	t	df	Significance
Independent	60	126.8333	3.2397	+5.9511	114	$P < .001$
Not-Independent	56	107.5535				

*I.Q. information missing for two not-independent students.

dents from the Henman-Nelson Intelligence Test which was administered in grade nine. In a few cases, the test was administered at a later date and in two cases no ability information was available. The mean standard deviation of the I.Q.'s for the independent students were 126.8333 and 16.4561, respectively, and for the not-independent students, 107.5535 and 18.0237, respectively. Again, the two groups tend to be about equally variable. However, the independent students tend to obtain I.Q. scores which would indicate superior ability while the not-independent students tend to obtain I.Q. scores which would indicate average ability.

Independent students tend to select more courses and less unscheduled time than do the not-independent students. Tables 4 and 5 contain the summary information on students' class loads. The unscheduled time was figured

TABLE 4

Significance of the Difference between Mean Modules of Unscheduled Time for Independent and Not-Independent Students

Group	Number	Mean*	SE	t	df	Significance
Independent	60	20.65	1.8855	-3.5587	116	P< .001
Not-Independent	58	27.36				

*Based on the number of modules of unscheduled time per week.

TABLE 5

Significance of the Difference between Mean Class Loads for Independent and Not-Independent Students

Group	Number	Mean*	SE	t	df	Significance
Independent	60	2.6375	.0600	+4.3033	116	P<.001
Not-Independent	58	2.3793				

Based on .5 units per semester courses, 6 courses = 6.5 = 3.0 units.

in modules per week. This time included the students' lunch periods as well as their free time. The mean and standard deviation of the modules of unscheduled time for independent students were 20.65 and 9.63, respectively, and for not-independent students, 27.36 and 11.23, respectively. The variability of unscheduled time with the groups were about the same, but the means were considerably different. This difference is even more glaring if you subtract 10 modules for lunch periods (only 30 minutes per day) and then compare the means. The means would now be 10.65 and 17.36, respectively. Thus, the not-independent students tend to select about twice as much unscheduled time (without considering the lunch period) as do the independent students. This same result can be noted, but not as glaringly, by examining the class loads. The mean and standard deviations of the class load for independent students were 2.3793 and .3661, respectively. The difference between the means (significant of the .001 level) indicates that the independent students tend to enroll in slightly more courses than do not-independent students.

The analysis of the data indicated that there was a significant relation between those students identified as being apparently college bound and those apparently not college bound and the independent--not-independent dichotomy (see Table 6). A significantly higher proportion of independent

TABLE 6

Significance of the Relation between Being College Bound or Not College Bound and Being Denoted Independent or Not-Independent Students.

	Observed Frequencies		Expected Frequencies	
	Independent	Not-Independent	Independent	Not-Independent
College Bound	57	35	46.7728	45.2272
Not College Bound	3	23	13.2184	12.7812

$X^2 = 18.6501$, df = 1, $P < .001$

students than not-independent students appeared to be college bound. It can be noted that the majority of both groups exhibited this characteristic. However, 95 per cent of the independent students appeared to be college bound while only 62 per cent of the not-independent students appeared to have this same orientation.

The data analysis also indicated that there was a significant relation between disciplinary problems and the independent--not-independent dichotomy (see Table 7). For this study, a student was denoted as a disciplinary problem if he was known as a disciplinary problem to the school official who normally handles disciplinary cases. None of the 60 independent students

TABLE 7

Significance of the Relation between Disciplinary Problems and Independent or Not-Independent Students

	Observed Frequencies		Expected Frequencies	
	Independent	Not-Independent	Independent	Not-Independent
Disciplinary Problem	0	21	10.6764	10.3236
Not a Disciplinary Problem	60	37	49.3148	47.6852

$X^2 = 25.0199$, df = 1, $P < .001$

had been brought to his attention for disciplinary action. However, 21 of the 58 not-independent students were known to him as disciplinary problems. The percentages of students from the groups who were denoted as discipline problems were 0% and 36%, respectively. Even though the majority of the students in both groups were not known as disciplinary problems, significantly

more not-independent students than independent students had been brought to the attention of the disciplinary officer. It is interesting that in the one group none of the students were known as disciplinary problems.

The number of absences somewhat parallels discipline problems in that chronic absenteeism and discipline often go hand-in-hand. Consequently, it is not surprising that the not-independent students were absent from school significantly more often than were the independent students (see Table 8). The typical independent student was absent from school about four days during

TABLE 8

Significance of the Difference between Mean Number of Absences for Independent and Not-Independent Students

Group	Number	Mean*	SE	t	df	Significance
Independent	60	4.3750	1.1222	-5.6884	116	$P < .001$
Not-Independent	58	10.7586				

*Based on the number of absences for the fall semester of the 1967-1968 school year.

the first semester, while the typical not-independent student was absent from school almost eleven days during the same period. The not-independent student has a rate of absenteeism which is about 2.5 times as great as the rate for independent students.

The relation of the independence construct to achievement and classroom procedures can again be noted in the sex distribution. It has been noted in previous studies that girls tend to conform better than boys to the accepted mode of classroom behavior. Similarly, a significant relation was

found between sex and the independent--not-independent dichotomy (see Table 9). Twenty-three of the independent students were males and 37 were females,

TABLE 9

Significance of the Relation between the Sex of Students and Being Denoted Independent or Not-Independent Students

	Observed Frequencies		Expected Frequencies	
	Independent	Not-Independent	Independent	Not-Independent
Male	23	45	34.5712	33.4288
Female	37	13	25.4288	24.5712

$X^2 = 17.0205$, df = 1, $P < .001$

while 45 of the not-independent students were males and 13 were females. The percentages within independent and not-independent categories were 39% independent males, 61% independent females, 78% not-independent males, and 22% not-independent females.

DISCUSSION

The profiles of typical independent and not-independent students might be as follows. The independent student will probably be a highly intelligent female who is college bound. She will likely take a heavy class load, attend school regularly, have relatively little unscheduled time, and obtain high marks, thus ranking in the top one-fourth of her class. The not-independent student will probably be a male of average intelligence who is college bound. He will likely take a lighter class load, attend school irregularly,

have a relatively large amount of unscheduled time, and obtain low marks, thus ranking in the bottom one-fourth of his class. Furthermore, if a student is not college bound or if he is known as a disciplinary problem, he will probably be a not-independent student.

The relation between independence and unscheduled time should be noted. The innovation of unscheduled time was intended to increase the options from which students could select meaningful activities and thus enhance their development of responsible, self-directed behavior. As students developed, it would be anticipated that they would select increasing amounts of self-directed and unscheduled activity. However, the data indicate that the independent students tend to select additional course work rather than seeking these unscheduled options more often than do not-independent students. This may be a result of the significant academic-educational motivated orientation of the independent student group.

The intent of this study was to describe independent and not-independent students as teachers in an innovative school perceived them. It is somewhat disconcerting that in a highly progressive school, attempting to free itself from conventional restraints, the teachers' perceptions of their students would still be so highly related to the conventional concepts of ability, achievement, discipline, sex and the like. The disconcertment is not with the conventional concepts, for they are very much a part of the educational system. However, it is with the high degree of relation between these concepts and the operationally defined independent--not-independent dichotomy. Whether this relation should or could be changed is largely open to conjecture at this time. It may be that these variables are not the cri-

teria for membership into the independent student group, but that they are so highly intercorrelated with the membership criteria that they cannot be separated from the criteria in the configurational aspects of the teachers' perceptions of independent and not-independent students.

One of the primary goals of the innovative schools has been to produce independent, self-directed students. However, the results of this investigation indicate that many of the educational characteristics of the independent student are exactly the same as those characteristics which would have been predicted for the high-achiever. The group names have changed, but have the teachers' perceptions of the student's role changed? Or, are we applying the same old definition to new terms? Further development of the construct of the independent student needs to be done before these questions can be adequately answered.

SUMMARY

This study was designed to determine some of the educational characteristics associated with the construct of the independent student. Toward this end, 35 grade eleven teachers in an innovative school system were requested to supply the names of five independent, self-directed students and five not-independent, not-self-directed students. A total of 118 names were submitted: 60 independent students and 58 not-independent students. The two groups were found to be significantly different on nine educationally related variables. The independent students, when compared to the not-independent students, had significantly higher mean I.Q., higher mean GPA, lower mean class rank, lower mean modules of unscheduled time, higher mean class load, higher proportion of college bound students, lower proportion of students known as disciplinary problems, lower mean number of absences, higher proportion of females than males. These results seem to indicate either that the role of the independent student is highly similar to the conventional role of the high-achiever, or that the variables analyzed are different from, but highly interrelated with, the criteria for membership into the independent student group.

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